

Work Order ID 104935

July-23-13 12:57:10 PM

104935

Page 1

Item ID: 646.9711

Accept

N900040100

Setup

Start

NS1

Revision ID:

Stop

NS2

Item Name: Blade

Start Date: 7/23/13 Start Qty: 24.00

24

Cust Item ID:

Required Date: 7/23/13 Req'd Qty: 24.00

24

Customer:

Reference:

Approvals: Process Plan: MUD

Date: 13-07-25 Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr								
646.9700	B								
100 *100* Bandsaw Jeaspa Bandsaw	BAND SAW Memo Cut Blank at 4.625"	0.00	DR /	13/08/20	24	Ø			

110 *110* HAAS 1 HAAS CNC vertical machine #1	HAAS CNC VERTICAL MACHINING #1 Memo 1-Machine per folio FB135 DWG REV: B FOLIO REV: AA	0.00	DR/B.	13/08/20	24	Ø			
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2- deburr and break all sharp edges except otherwise noted

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ **Date:** _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS									
			Rework Scrap Use-as-is Work Order Update	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier	Engineering Quality Other								
Part No. _____															
NCR No. _____															
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector						
Doc/Data															
Equip/Tooling															
Operator															
Material															
Setup															
Other															
Process															
Supplier															
Training															
Unapproved															
FAULT CATEGORY															
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio		<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled			
														<input type="checkbox"/> Other	

NCR: Yes / No

DQA: Date:

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>				
Part No. _____											
NCR No. _____											
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
Bending				Bend				Grain			
Centre Not Concentric to O/S				BOM/Route				Hardware			
Cracks				Broken/Damaged				Inspection Incomplete			
Crushed/Crimped				Burrs				Instructions Incomplete/Unclear			
Cuffs				Contamination				Maintenance			
Heat Treat				Countersink				Mislabeled			
Inspection Strip in Tube				Cut Too Short				Misread			
Ripples in Bend				Drill Holes				Offset			
Torque Waves in Extrusion				Drawing				Out of Calibration			
Turning Sequence				Finish				Out of Sequence			
Wave/Twist in Tube				Folio				Outside Dimensions			
Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other											

Work Order ID 104935

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Page 3

Item ID: 646.9711

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Blade

Stop

NS2

Start Date: 7/23/13

Start Qty: 24.00

24

Cust Item ID:

Required Date: 7/23/13

Req'd Qty: 24.00

24

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

Receive & Inspect for Damage & Mat'l Certs

0.00

150

Packaging

Packaging

7/23/17 (27)

155

QC5- Inspect part completeness to step on W/O

0.00

155

QC

Quality Control

(DAS
05
26) 13-10-28

24 _____

160

Spray Painting per QSI005 4.2

0.00

160

SprayPaint

Spray Painting

Memo

0.00

PRIME AS PER DWG, SEE NOTE #4

PRIMER BATCH: 127401

24 0 0 Ad
13-12-7

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: Date:

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS					
				Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>			
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio		<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Other	

Work Order ID 104935

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Page 4

Item ID: 646.9711

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Blade

Stop

NS2

Start Date: 7/23/13

Start Qty: 24.00

24

Cust Item ID:

Required Date: 7/23/13

Req'd Qty: 24.00

24

Customer:

Reference:

Approvals: Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

170

QC14- Inspect Spray Paint

0.00

24

13-12-09

170

QC

Memo

0.00

Quality Control

180

Identify as per dwg & Stock Location: composites

0.00

(Finishing)

24

13-12-09

180

Packaging

Memo

0.00

Packaging

190

QC21- Final Inspection - Work Order Release

0.00

13/12/10 JH

190

QC

Memo

0.00

Quality Control

RB-D-10

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____	DISPOSITION	AGAINST DEPARTMENT/PROCESS					
Part No. _____	Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>		
NCR No. _____							

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear	General			
Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain	<input type="checkbox"/> Ovalized	<input type="checkbox"/> Pressure/Forced
Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware	<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Temperature/Cure
Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Weld
Crushed/Crimped	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Wrong Stock Pulled
Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Part Moved	
Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Positioned Wrong	
Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread	<input type="checkbox"/> Power Loss/Surge	
Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset		
Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration		
Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence		
Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions		

Picklist Print

July-23-13 12:57:10 PM

Page 1

Work Order ID: 104935**Parent Item:** 646.9711**Parent Item Name:** Blade**Start Date:** 7/23/13**Required Date:** 7/23/13**Start Qty:** 24.00**Required Qty:** 24.00**Comments:** IPP REV:A NEW ISSUE 12/09/24 JFS VERIFY BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MSTEEL-A2- B0.500X1.250		Purchased	No			100	f	107.4280	0.386	9.7515792			

AISI A2 TOOL STEEL BAR, 0.500 X 1.250

Location	Loc Qty	Loc Code
MAT009	107.4280001	
123250	0.0000001	
125350	2.7576	
M126166	104.6704	

9.7515792 De/13/08120

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS				
Part No. _____	Rework <input type="checkbox"/>	Scrap <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>			
NCR No. _____	Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
	Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									
FAULT CATEGORY									
Landing Gear			General						
			Bending <input type="checkbox"/>	Grain <input type="checkbox"/>	Ovalized <input type="checkbox"/>	Pressure/Forced <input type="checkbox"/>			
			Centre Not Concentric to O/S <input type="checkbox"/>	BOM/Route <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>	Temperature/Cure <input type="checkbox"/>			
			Cracks <input type="checkbox"/>	Broken/Damaged <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>	Weld <input type="checkbox"/>			
			Crushed/Crimped <input type="checkbox"/>	Burrs <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>	Wrong Stock Pulled <input type="checkbox"/>			
			Cuffs <input type="checkbox"/>	Contamination <input type="checkbox"/>	Part Moved <input type="checkbox"/>				
			Heat Treat <input type="checkbox"/>	Countersink <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>				
			Inspection Strip in Tube <input type="checkbox"/>	Cut Too Short <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>	Other <input type="checkbox"/>			
			Ripples in Bend <input type="checkbox"/>	Drill Holes <input type="checkbox"/>					
			Torque Waves in Extrusion <input type="checkbox"/>	Drawing <input type="checkbox"/>					
			Turning Sequence <input type="checkbox"/>	Finish <input type="checkbox"/>					
			Wave/Twist in Tube <input type="checkbox"/>	Folio <input type="checkbox"/>					

DART AEROSPACE LTD	Work Order:	104935
Description: Blade	Part Number:	646.9711
Inspection Dwg: 646.9700 Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

DAS

Measured by:	Audited by:	Preliminary Approval:
Date: 03/08/20	Date: 13/01/02	Date:

Rev	Date	Change	Revised by	Approved
A	13.06.03	New Issue	KJ	
B	13.06.27	Dwg Rev updated	KJ	
C	13.07.18	Dwg Rev updated	KJ	JM

APICAL
INDUSTRIES, INC.

ENGR. DRAWING

15-033

SHEET 1

DWG NO. 646.9700	REV. A	PREPARED BY J. BECKER	DATE: 07/03/13	EFFECT OF DWG <input checked="" type="checkbox"/> INC. <input type="checkbox"/> UNINC.
------------------	--------	-----------------------	----------------	---

DWG TITLE: CUTTER SUB ASSY

APPROVED BY:

ENGR.

J. Mar

MFG

Dave Baker

QC

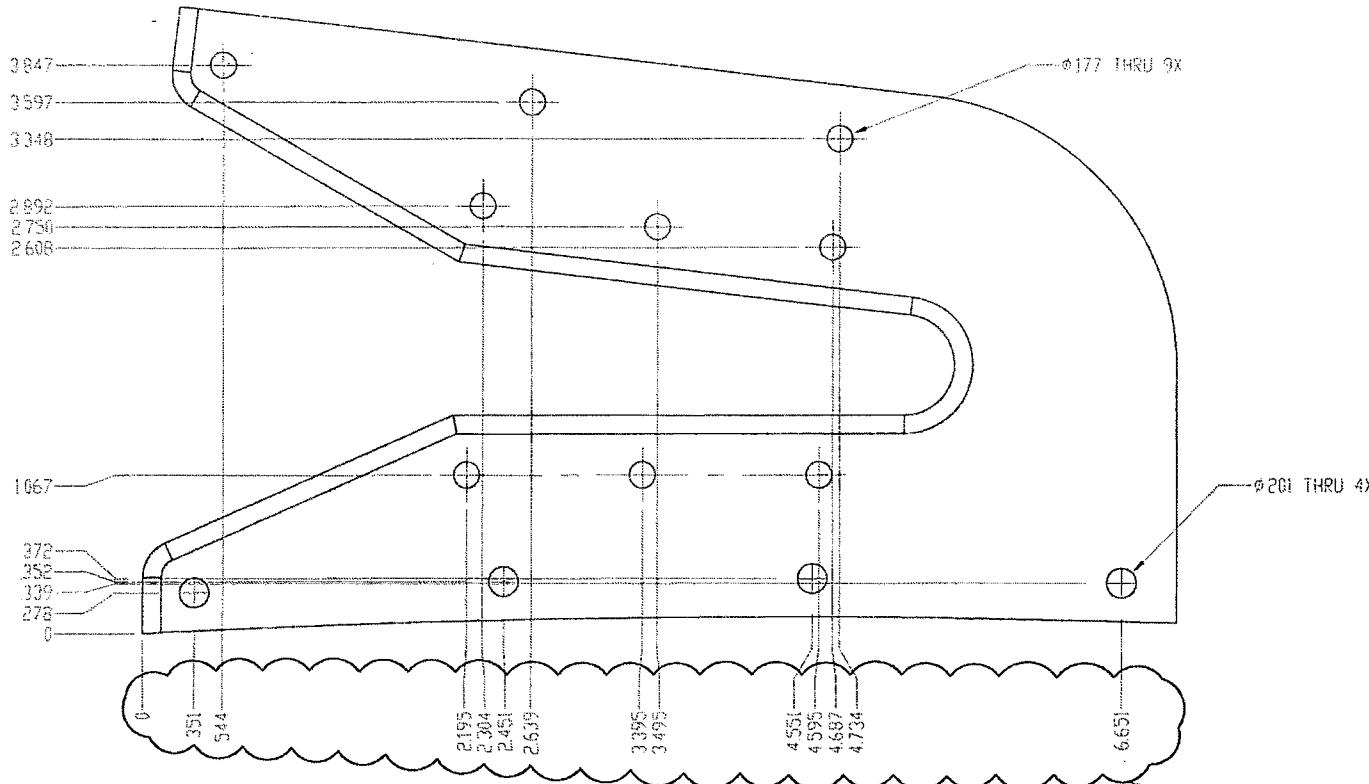
[Signature]

EFF:

CURRENT ORDER

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

REASON: ADDED DIMENSIONS, ADDED INSPECTION DIMENSIONS.



SHEET 4, ZONE D5:

WAS

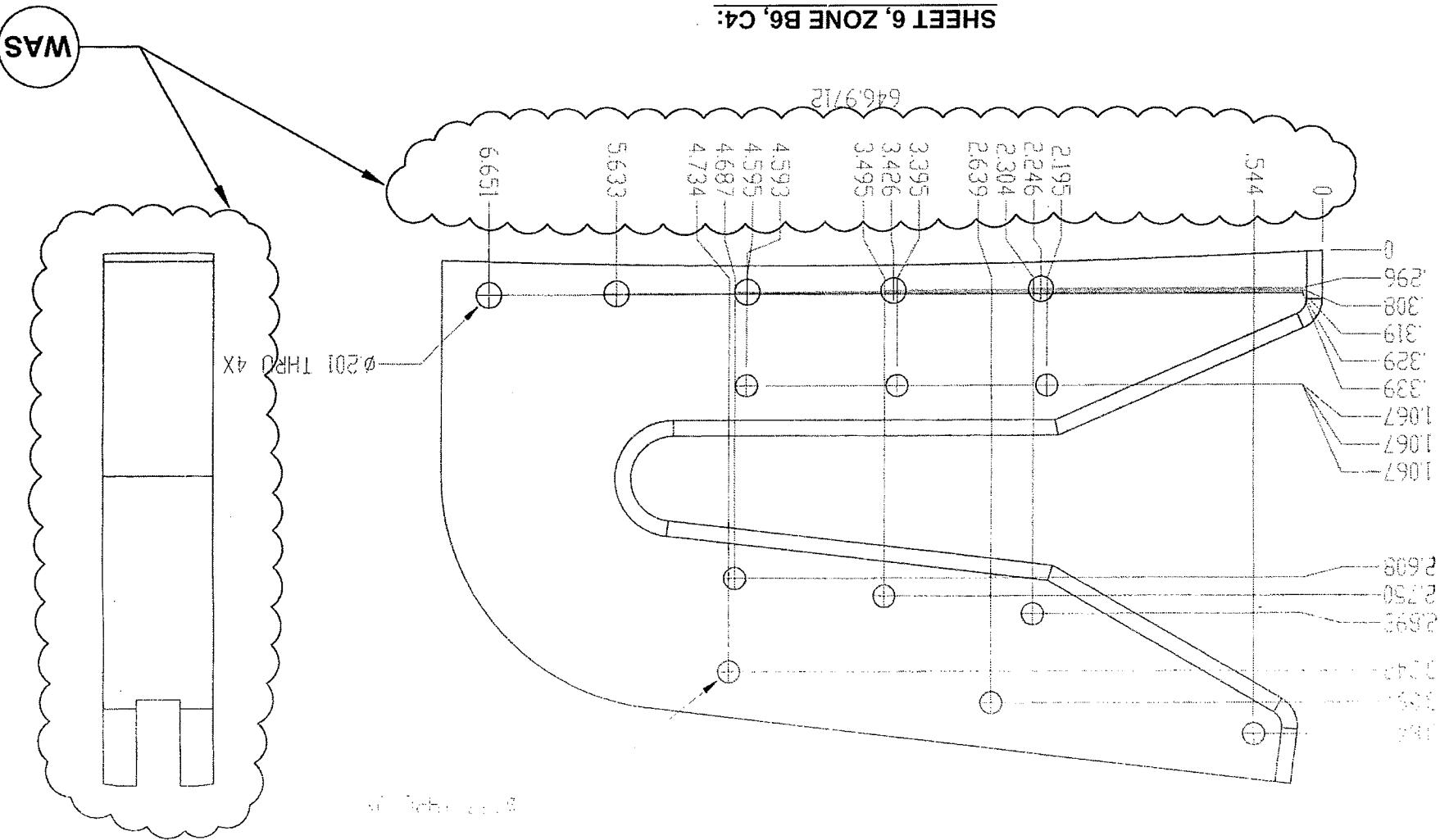
DOCUMENTS EFFECTED:

MDL INSTALL INSTRUC ICA BOM

CHANGE CATEGORY
 MAJOR MINOR

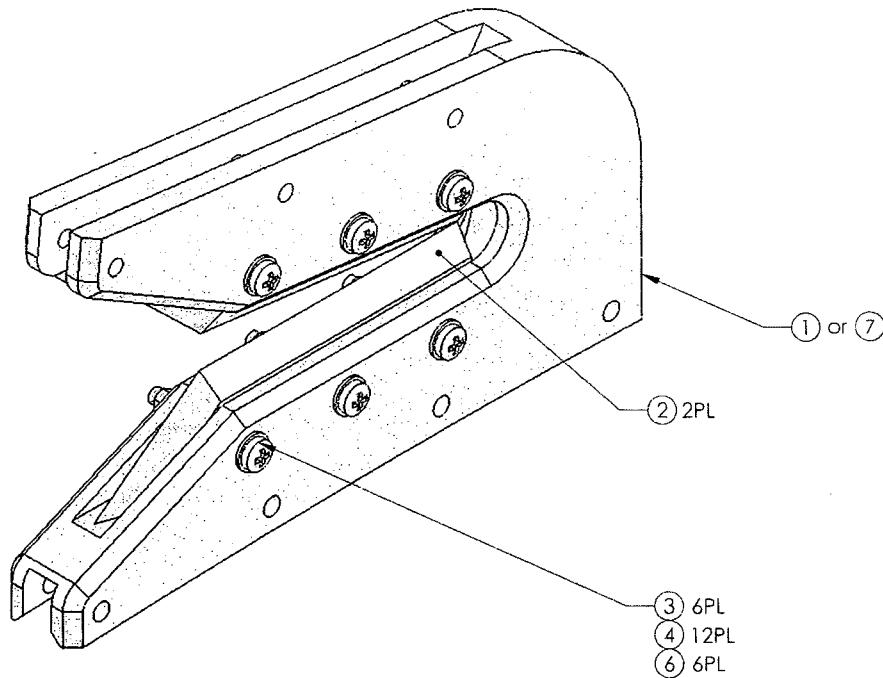
DER REVIEW REQUIRED
 YES NO

SHEET 6, ZONE B6, C4:



104935

104935



646.9701
or
646.9702

MATERIAL: ALUMINUM 7075-T651 PER AMS QQ-A-250/12

FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III,
CLASS 2, COLOR BLACK;
PRETREAT PRC-DESO TO PR-148 ADHESION PROMOTER;
PRIME IAW MIL-P-2337J TYPE I CLASS N: 1-2 MIL MAX

MATERIAL: AISI A2 TOOL STEEL
CONDITION: ANNEALED
POST PROCESS: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS

FINISH: PRIME IAW MIL-P-2337J TYPE I CLASS N: 1-2 MIL MAX
5. DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED

6. IDENTIFY IAW MPP-120

APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 UPON ASSEMBLY

CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE

ALL DIMENSIONS NOT SPECIFIED ARE CONTROLLED BY 646.9710.

CITY	ITEM #	PART #	DESCRIPTION	MATERIAL	SPEC.	PARTS LIST	
						QTY	FIND #
	1	7	646.9712	BODY (U CHANNEL)	A	A	
	6	6	601.1541	LOCKNUT	AS21042L08		
A/R	A/R	5	601.2764	RTV, LOCTITE 598			
	12	12	601.2764	WASHER	AS111XSH432P		
	6	6	601.2745	SCREW	AS2105-0619		
	2	2	646.9711	BLADE	A	A	
	1	1	546.9710	BODY	A	A	
			646.9702	CUTTER SUB ASSY IN CHANNEL			
			646.9701	CUTTER SUB ASSY			

NEXT ASSY (S)

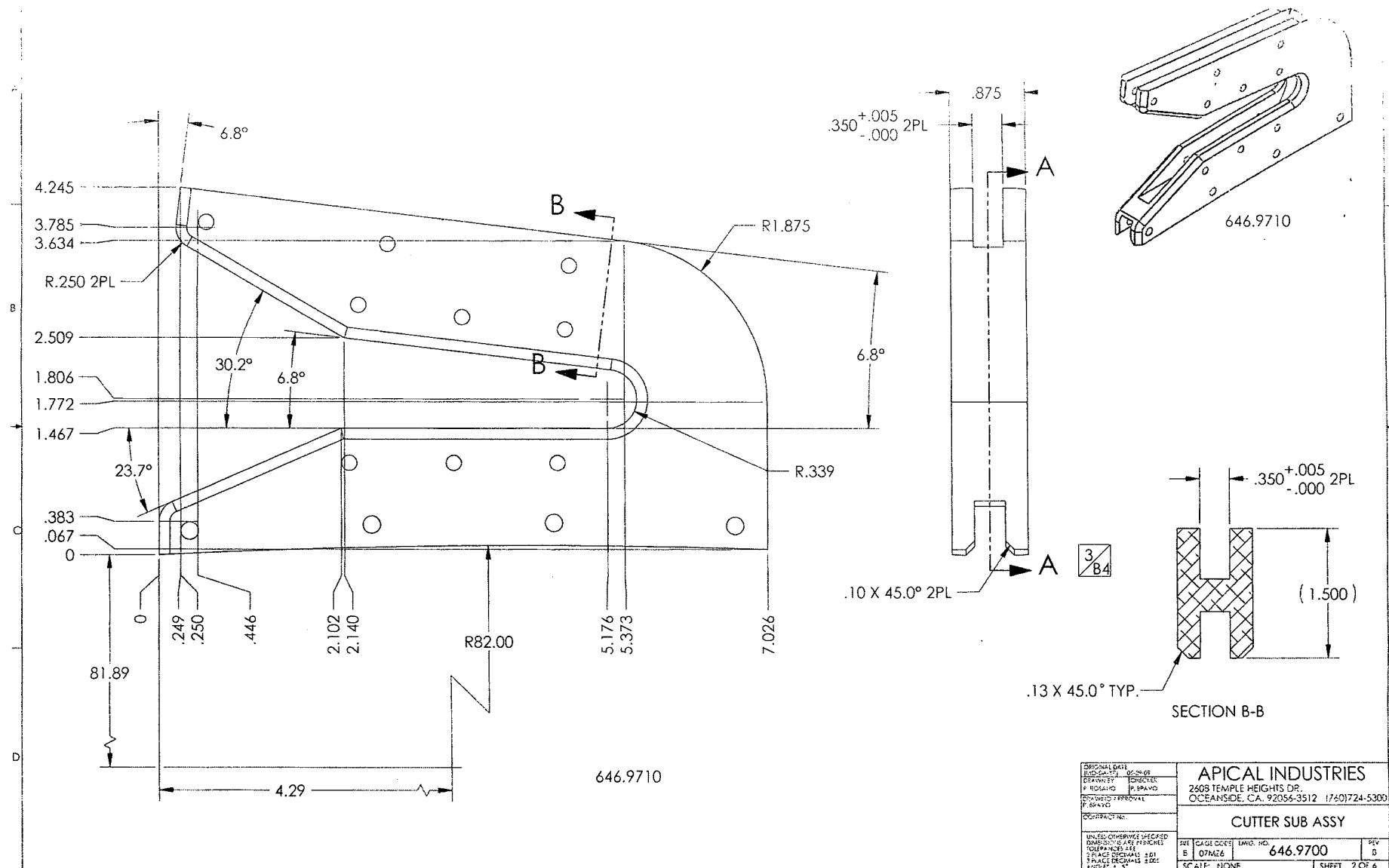
646.9600	SPRING PLATE	6524-03
646.9700	DRAWER	SHAKER
	2 PC NANO	P. PAVO
	PEWTER APPROVAL	
	PCB-02	
	CONTRACT NO	

APICAL INDUSTRIES

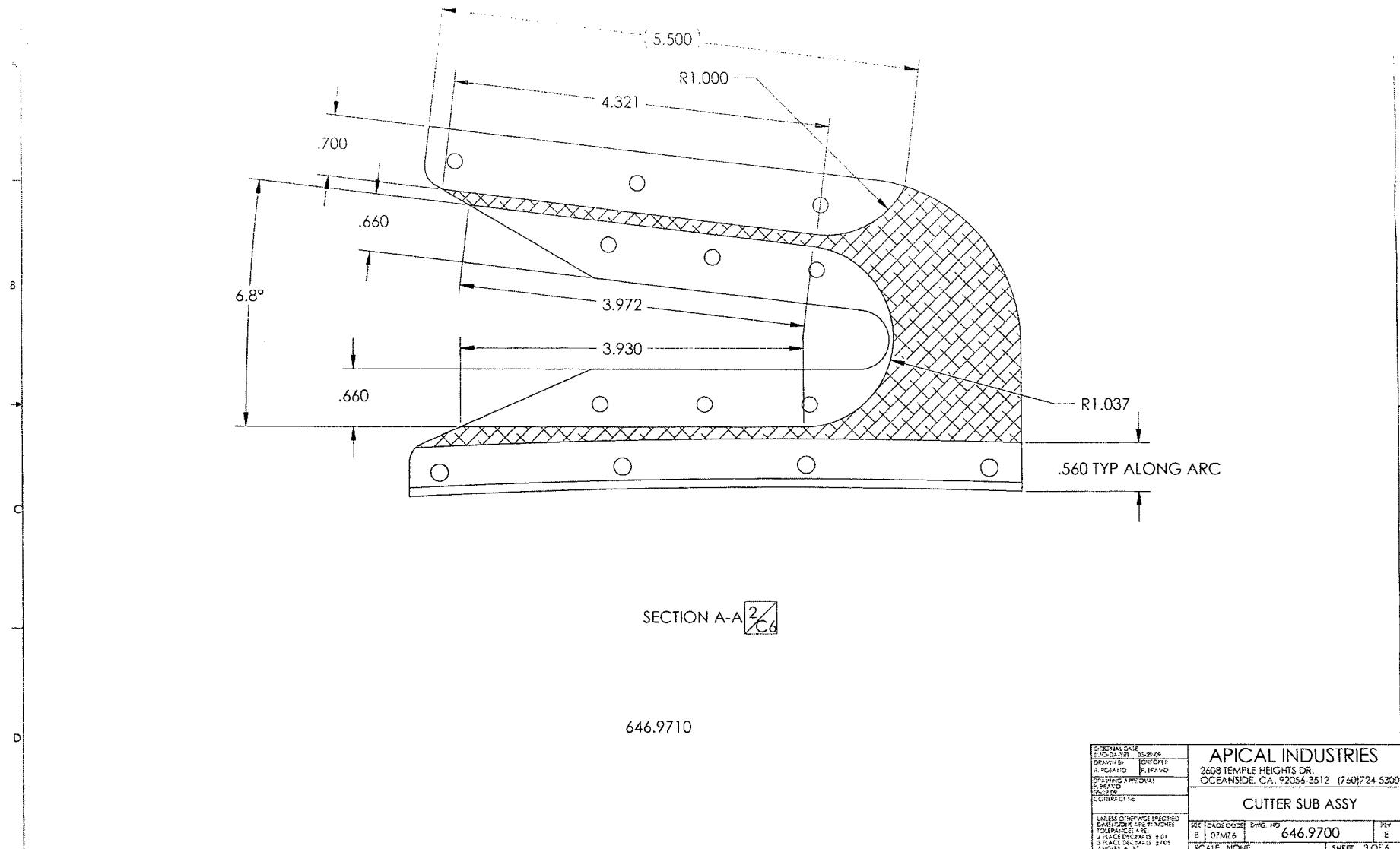
2605 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

CUTTER SUB ASSY

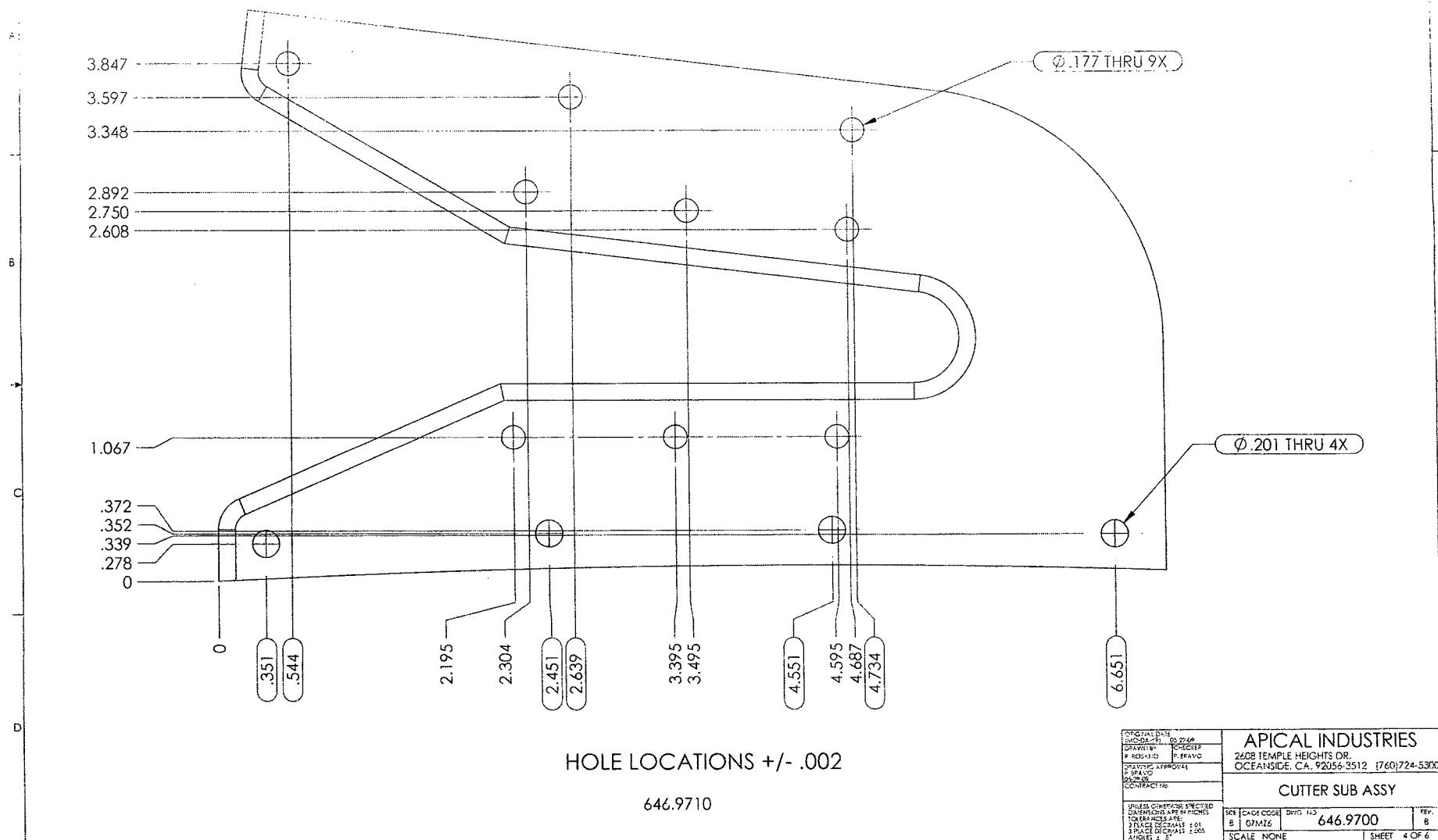
REV	6
DATE	07M26
ITEM	646.9700
CODE	07M26
SCALE	NONE
SHEET	1 OF 6



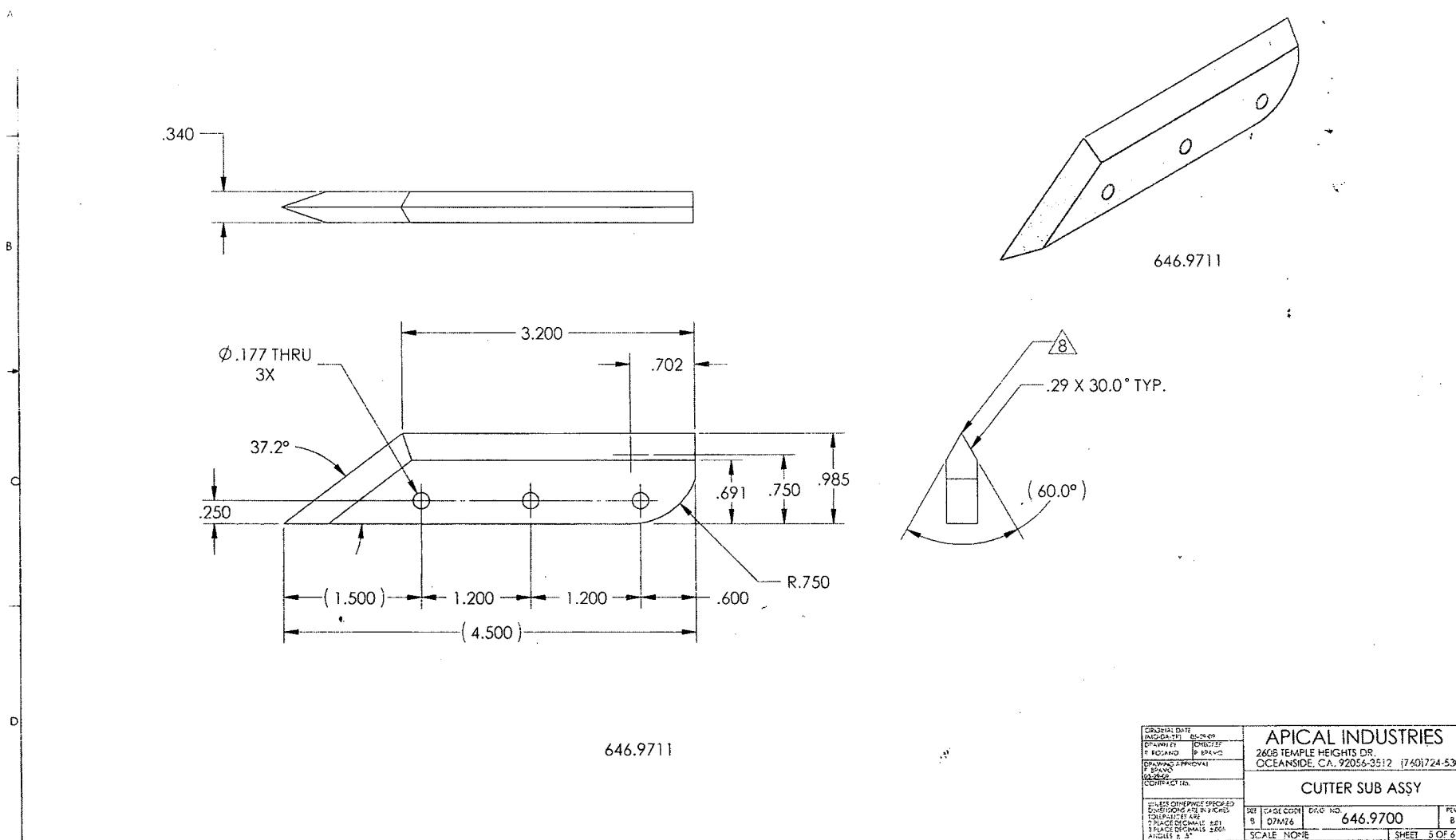
104935



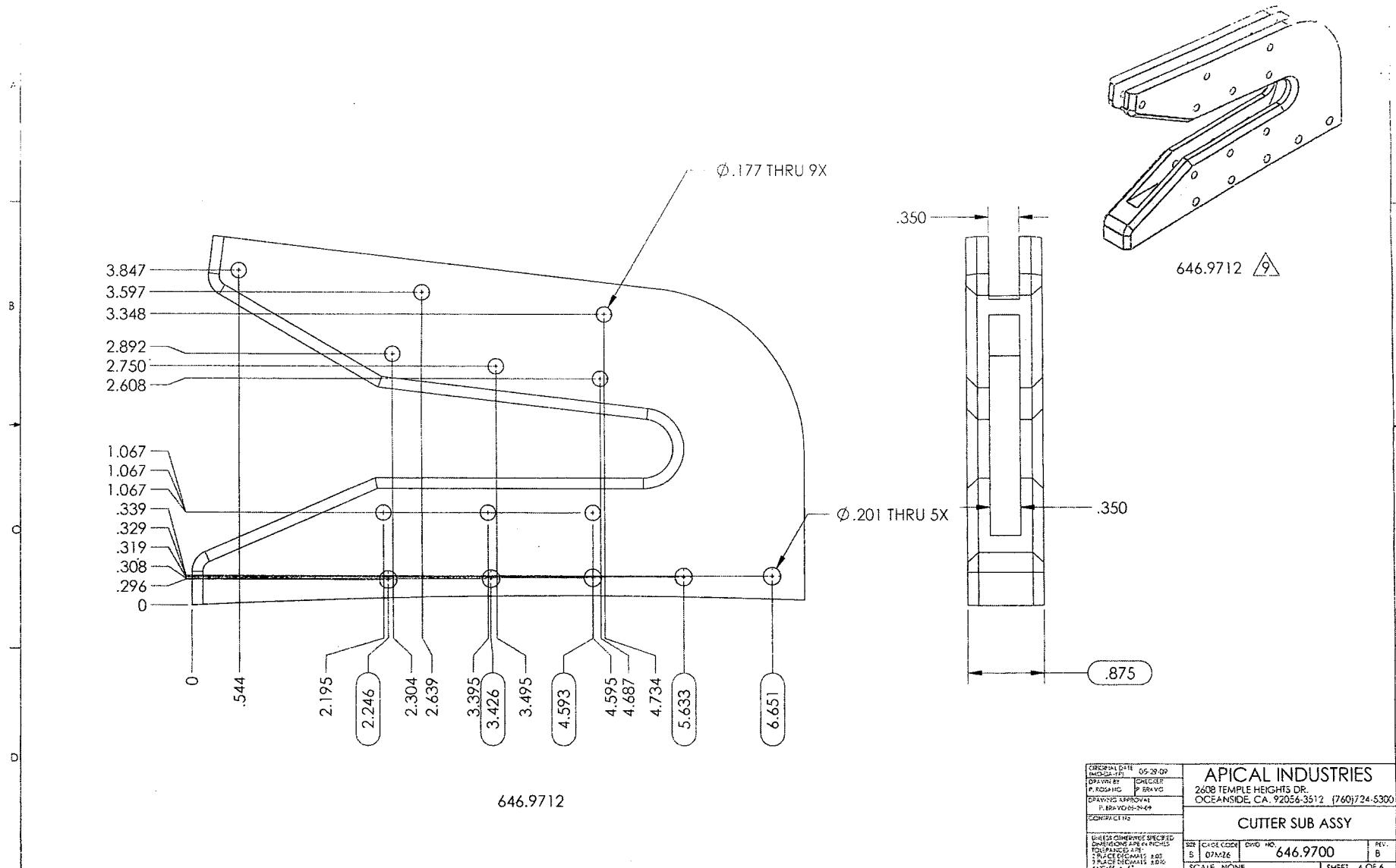
104935



104935



10x935



Jean-Luc Menard

From: Pablo Bravo
Sent: September-30-13 8:43 PM
To: Jean-Luc Menard
Subject: RE: DEVIATION ACCEPTABLE??

JL,

I think once they are painted they will be around .013" so I don't think the extra .004" will be critical. Please go ahead and use the parts.

Pablo

From: Jean-Luc Menard
Sent: Monday, September 30, 2013 5:46 AM
To: Pablo Bravo
Subject: RE: DEVIATION ACCEPTABLE??

Hi Pablo,

Checked the ones we have in stock, measuring .009" with a feeler gauge.

The ones we have here measuring .019"(blades unpainted).

Let me know,

JL

From: Pablo Bravo
Sent: September-27-13 5:32 PM
To: Jean-Luc Menard
Subject: Re: DEVIATION ACCEPTABLE??

JL,

I think we can use the parts. Please check the clearance between the blades once they have been assembled and compare it to other cutter assemblies in stock.

Pablo

On Sep 27, 2013, at 5:46 AM, "Jean-Luc Menard" <jmenard@dartaero.com> wrote:

Hi Pablo,
Thanks for explaining, we are measuring right on nominal (.250").
What is happening is that the part is on size (.985") until we mill the blade angle, the tool (chamfer tool) overhangs the part and takes away at the point.
Let me know on what you decide,
JL

From: Pablo Bravo
Sent: September-26-13 3:48 PM
To: Jean-Luc Menard
Subject: RE: DEVIATION ACCEPTABLE??

JL,

What is the distance between the holes and the bottom of the part? In the drawing it is .250 inches. The reason I ask is that if the blades are separated too much when they are installed (which could happen if the overall height is shorter than what's on the drawing) then not all of the cable strands will get cut as they go through the cutter. You would end up with some strands that get damaged, but are intact all the way through the blades. This ends up putting stress on the cutter body and causes the cable to fail in tension (where it is strongest) as opposed to being sheared. The design can handle one or two strands failing in tension, but if it gets past this then the cable won't get cut and the surrounding parts will fail. If we are on the high end of the tolerance on the distance between the hole and the bottom of the part (.255), then we might have too large of a gap.

Pablo

From: Jean-Luc Menard
Sent: Thursday, September 26, 2013 4:54 AM
To: Pablo Bravo
Subject: DEVIATION ACCEPTABLE??

Good Morning Pablo,
Here is another one, 646.9711, total height is coming in at .973".
Is this acceptable?
THX
JL

<image002.png>

Jean-Luc Ménard
Production Engineering Supervisor

DART AEROSPACE
T 1 613 632-5200 > 227
F 1 613 632-5246
1 800 556- 4166
www.dartaerospace.com

<image003.png>

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Reçu de livraison

Delivery Receipt

BON DE TRAVAIL Order	EXPÉDITEUR Shipper ID	BON D'EXPÉDITION Shipper
189961	1	75438

EXPÉDITION COMPLÈTE / Shipped Complete

CLIENT /Customer 215

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

LIVRÉ À /Shipped To

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

COMMANDE DU CLIENT Customer PO	BON DE LIVRAISON DU CLIENT Customer Shipper No.	TYPE DE MATÉRIEL Material Type	DATE DE LA COMMANDE Order Date	TRANSPORTEUR Carrier
PO21577		A2	2013/10/4	FEDEX

QUANTITÉ Quantity	No. PIÈCE / NOM DE LA PIÈCE Part No. Part Name	DESCRIPTION DE LA PIÈCE Part Description	POIDS Weight
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62 646.9711

18,

(24) BLADE
REFERENCE 104935

(16) 646.9711 BLADE
REFERENCE 106350

(14) 646.9711 BLADE
REFERENCE 105988

(8) 646.3013 BLADE
REFERENCE 106687

CONTENANT: 1 BOÎTE DE CARTON

QUANTITÉ EXPÉDIÉE /Quantity Shipped:

62

POIDS EXPÉDIÉ / Weight Shipped :

18,00

Signature:

Date:

EXPÉDIÉ LE / Shipped On : 2013/10/09

560, boul. Arthur-Sauvé, St-Eustache (Québec) J7R 5A8
 Tél. 450 473-1884
 Télécopieur/Fax administration 450 491-5498
 Télécopieur/Fax production 450 491-6454

Rapport d'Inspection
Inspection Report

BON DE TRAVAIL order	CHARGEMENT load
189961	1

CLIENT / customer 215

DART AEROSPACE
 1270 ABERDEEN
 HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE
 1270 ABERDEEN
 HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	CODE DE TRAITEMENT mat'l heat code	NUMÉRO DE LOT lot number
PO21577		A2		

SPECIFICATIONS DU PROCÉDÉ

processing specifications

VAC HARDEN

HARDEN AND TEMPER

EXIGENCE / requirement SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed RÉSULTATS DE TESTS / results
 HARDNESS 58 - 62 HRC 13 58.0 - 60.0 HRC

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
62	18	646.9711 (24) BLADE REFERENCE 104935 (16) 646.9711 BLADE REFERENCE 106350 (14) 646.9711 BLADE REFERENCE 105988 (8) 646.3013 BLADE REFERENCE 106687 CONTENANT: 1 BOÎTE DE CARTON

COMMENTAIRES / comments



CERTIFIÉ par / Certified by:

DATE: 2013-10-09